Remarks/Arguments:

This is a reply to the office action of February 8.

The claims now presented distinguish the present invention from the disclosure in Alcock (WO 02/31780), which does clearly not use a compound parabolic concentrator.

A compound parabolic concentrator is a specific device invented by R.Winston, whose article appear in one of the two attached articles describing the underlying optical principle of a compound parabolic concentrator.

The basic facts about a compound parabolic concentrator are explained in the original description page 7 and 8, with reference to figure lc. A CPC comprises two parabolic elements which are arranged such that the focal points of the parabolic elements lie each on the respective other parabolic element. Not every device comprising two parabolic elements is a CPC. Rather, in order to qualify as a CPC, the parabolic elements have to be arranged in the manner described above, i.e. the focal points of the parabolic elements must lie each on the respective other parabolic element. This can be clearly seen in figure lc of the present specification: the focal point fl of the parabolic mirror P1 lies on the parabolic mirror P2, whereas the focal point f2 of the parabolic element P2 lies on the parabolic element P1.

Moreover, a CPC must have a first and a second aperture area, as well as a first and second acceptance angle for incoming or outgoing light. It is a precondition for a CPC that the first aperture area is wide and has a narrow acceptance angle, whereas the second aperture area is narrow and has a wide acceptance angle.

Only if all the above conditions are fulfilled, does the skilled person consider a device to be a CPC.

As a further illustration that the above structure of a CPC is well known, we enclose an excerpt from the book "Power From The Sun", which is a revised version of the book "Solar Energy Systems Design", Wiley 1985, by Stine and Harrigan. In chapter 9, a detailed description of a compound parabolic concentrator is given. It is clear, from figure 9.10 and the respective description of the figure, that a precondition of a CPC is that the focal point of the first parabolic element lies on the other parabolic element, and vice versa.

It is respectfully submitted that in figure 1 of Alcock no CPC is shown. In Alcock, in figure 1 an imaging spectrometer is shown, wherein the entrance slit is imaged onto to the output slit, as can be readily gathered from the figure. The mirror elements 16 and 20 shown in figure 1 of Alcock are not arranged with respect to each other as they must be for a CPC. Therefore, the entire device shown in figure 1 of Alcock is not suitable to function as a CPC, as required by the present claims.

Regardless, we submit that in Alcock no wide-angle illumination is shown at all. Throughout the specification of Alcock, it is repeatedly indicated that the substrate is illuminated by one light source at one specific time. It is correct that this light source may emit light of different wavelengths. However, the light of the different wavelengths is focused in such a way that parallel light beams are sent onto the surface of the substrate at a single specific angle. Alcock does not disclose that a plurality of different light sources should simultaneously illuminate the surface of the substrate under different angles ranging from orthogonal to grazing incidents. However, according to the definition of the term "wide-angle illumination" given on page 6 of the present specification, this is required by the present invention.

Also in the passage on page 27 from Alcock, no wide-angle illumination is described. The passage refers to figure 1, where clearly only one light source illuminating the substrate under one specific angle is shown. What is expressed on page 27 is that the location of the substrate may be altered with respect to the incident angle of the illuminating light (page 27 fourth paragraph, of Alcock). But clearly, due to the alteration of the location of the substrate, Alcock cannot simultaneously illuminate the substrate at different angles. Rather, different illuminations have to be performed in a sequential manner, wherein each time after the substrate has been rearranged a new illumination is carried out.

The claims presented are thus novel over Alcock.

Moreover, applicant respectfully submits that the combined prior art does not render the claims now presented obvious because no reference, particularly Alcock, suggests the concept of the present invention, i.e., to provide a device and method for the authentication of an item such as a security document, which provides a greater flexibility as to the items to be authenticated, is less expensive and miniaturizable.

The present invention enables one to authenticate security documents which are different from each other with respect to their optical characteristics with one and the same device. According to the present invention, this problem is solved by using wide-angle illumination instead of normal illumination.

The prior art, including Alcock, is absolutely silent both with respect to the problem of the present invention and with respect to its solution. Therefore, it is submitted that the claims now presented are non-obvious and novel over the prior art of record, and that this application is now in condition for allowance.

Respectfully submitted,

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